

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A cutting tool insert comprising a substrate and a coating wherein the coating comprises one or more layers of refractory compounds of which at least one layer comprises a precipitation hardened $(\text{Ti}_y\text{Al}_x\text{Me}_{1-x-y})\text{N}$ based layer, where Me is one of the ~~element~~ elements Zr, Hf, V, Nb, Ta, Cr, Mo, W or Si, and wherein:

x is between ~~0.50~~ 0.55 and 0.80;

a ratio, $R=x/(x+y)$, is between 0.50 and 0.85;

a sum of Ti and Al subscripts, $S=x+y$, is between 0.7 and less than 1.0;

a ratio of the peak width, $F_{10/90}$, FW10\%M or FW90\%M meaning Full Width at 10% and 90% of the maximum peak value reduced with the background, measured using X-ray diffraction with Cu $K\alpha$ radiation of the 200 peak at approximately $43^\circ 2\theta$ of the $(\text{Ti}_y\text{Al}_x\text{Me}_{1-x-y})\text{N}$ coating is higher than 7.5;

a ratio between the area of the h-AlN (100) peak at approximately $33^\circ 2\theta$ ($=A(\text{h-AlN})_{100}$) and the c- $(\text{Ti}_y\text{Al}_x\text{Me}_{1-x-y})\text{N}$ (200) peak at approximately $43^\circ 2\theta$ ($=A(\text{c}-(\text{Ti,Al,Me})\text{N})_{200}$) called K, wherein $K=A(\text{h-AlN})_{100}/A(\text{c}-(\text{Ti,Al,Me})\text{N})_{200}$, and K is between 0 and 0.3; and

the layer has a single $(\text{Ti}_y\text{Al}_x\text{Me}_{1-x-y})\text{N}$ (200) peak.

2. (Currently Amended) The cutting tool insert according to claim 1 wherein:

x is between 0.55 and 0.70;

the ratio, $R=x/(x+y)$, is between 0.55 and 0.75;

the sum of Ti and Al subscripts, $S=x+y$, is between 0.8 and less than 1.0; and

the $F_{10/90}$ value is higher than 8.

3. (Original) The cutting tool insert according to claim 2, wherein:

x is between 0.60 and 0.70;

the ratio, $R=x/(x+y)$, is between 0.60 and 0.75;

the $F_{10/90}$ value is higher than 9; and

K is between 0 and 0.2.

4. (Canceled) ~~The cutting tool insert according to claim 1, wherein $x+y=1$.~~

5. (Canceled) ~~The cutting tool insert according to claim 1, wherein $x+y<1$.~~

6. (Currently Amended) The cutting tool insert according to claim ~~[[5]]~~ 1, wherein Me=V, Zr, Ta, Nb, Si, or Cr.

7. (Currently Amended) ~~A~~ The cutting tool insert according to claim 6, wherein Me=Zr, or Nb comprising a substrate and a coating wherein the coating comprises one or more layers of refractory compounds of which at least one layer comprises a precipitation hardened $(Ti_yAl_xMe_{1-x-y})N$ based layer, where Me is one of the elements Zr or Nb, and wherein:

x is between 0.55 and 0.80;

a ratio, $R=x/(x+y)$, is between 0.50 and 0.85;

a sum of Ti and Al subscripts, $S=x+y$, is between 0.7 and less than 1.0;

a ratio of the peak width, $F_{10/90}$, FW10%M or FW90%M meaning Full Width at 10% and 90% of the maximum peak value reduced with the background, measured using X-ray diffraction with Cu K α radiation of the 200 peak at approximately 43 °2 θ of the $(Ti_yAl_xMe_{1-x-y})N$ coating is higher than 7.5;

a ratio between the area of the h-AlN (100) peak at approximately 33 °2 θ ($=A(h-AlN)_{100}$) and the c- $(Ti_yAl_xMe_{1-x-y})N$ (200) peak at approximately 43 °2 θ ($=A(c-(Ti,Al,Me)N)_{200}$) called K, wherein $K=A(h-AlN)_{100}/A(c-(Ti,Al,Me)N)_{200}$, and K is between 0 and 0.3; and

the layer has a single $(Ti_yAl_xMe_{1-x-y})N$ (200) peak.

8. (Original) The cutting tool insert according to claim 1, wherein the layer is deposited by PVD and the precipitates are obtained by a spinodal decomposition of the cubic $(\text{Ti}_y\text{Al}_x\text{Me}_{1-x-y})\text{N}$ layer.

9. (Original) The cutting tool insert according to claim 1, wherein the precipitates comprise nano-meter sized cubic TiN (c-TiN) and cubic AlN (c-AlN) and/or hexagonal AlN (h-AlN).

10. (New) The cutting tool insert according to claim 7, wherein:
x is between 0.55 and 0.70;
the ratio, $R=x/(x+y)$, is between 0.55 and 0.75;
the sum of Ti and Al subscripts, $S=x+y$, is between 0.8 and less than 1.0; and
the $F_{10/90}$ value is higher than 8.

11. (New) The cutting tool insert according to claim 10, wherein:
x is between 0.60 and 0.70;
the ratio, $R=x/(x+y)$, is between 0.60 and 0.75;
the $F_{10/90}$ value is higher than 9; and
K is between 0 and 0.2.

12. (New) The cutting tool insert according to claim 7, wherein the layer is deposited by PVD and the precipitates are obtained by a spinodal decomposition of the cubic $(\text{Ti}_y\text{Al}_x\text{Me}_{1-x-y})\text{N}$ layer.

13. (New) The cutting tool insert according to claim 7, wherein the precipitates comprise nano-meter sized cubic TiN (c-TiN) and cubic AlN (c-AlN) and/or hexagonal AlN (h-AlN).